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## EUROPEAN PATENT APPLICATION

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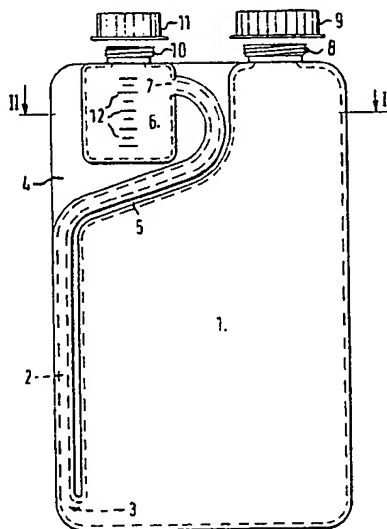
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Designated Contracting States: **BE DE FR GB IT**

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Dispensing container.

A liquid dispensing container (1) formed integrally with a dispensing receptacle (6) and provided with a duct (2) for liquid to be squeezed from the container to the receptacle, has the duct formed integrally with the container preferably by blow-moulding the whole container in thermoplastic material. The container is particularly suitable for dispensing relatively large doses, 10-30 ml or more, for veterinary purposes. (Fig. 1)



**EP 0 010 965 A1**

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DISPENSING CONTAINER

This invention relates to a dispensing container for liquids and provides an improved container for repeated delivery of a measured quantity of liquid.

The invention is particularly but not exclusively useful for dispensing relatively large doses, such as 10-30 millilitres or more, for use in veterinary treatment.

The invention is applied to a known kind of liquid-dispensing container formed integrally with a dispensing receptacle and having, extending between the container and the receptacle, a duct for liquid to be expressed from the container into the receptacle or sucked back by squeezing or relaxing squeeze of the container to change its volume. According to the invention, the duct is formed integrally with the container and receptacle.

By forming the duct integrally with the container and receptacle, preferably by moulding resiliently deformable plastics material, not only is there saved the cost of manufacture, insertion and securing of a separate duct, or a combined duct and receptacle, as in previously proposed dispensing containers, but the location and inlet and outlet levels of the duct are determined once for all in the manufacture of the container. This avoids uncertainty in the measuring of dispensed quantities, in cases in which the outlet

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level of the duct determines the quantity dispensed, and also avoids the container becoming unserviceable should the duct be materially displaced or lost.

Preferably the container is formed from thermoplastic material, such as polyethylene or polypropylene, by blow-moulding to define the duct by opposed and interwelded wall portions of the container.

In a preferred embodiment, considering the container in an upright position, the duct extends upwardly externally alongside the container from an inlet through the container wall near the bottom thereof to an outlet opening into a receptacle formed on a shoulder of the container.

The invention is illustrated by way of example on the accompanying drawings, in which:-

Fig. 1 is a side elevation of a container according to the invention,

Fig. 2 is a cross section on the line II - II of Fig. 1 and

Figs. 3 to 5 are somewhat diagrammatic side elevations of the container of Fig. 1 in successive conditions of use.

The container illustrated is made by known blow-moulding technology in which a tubular parison of thermoplastic material is extruded and then blown while pressed between a pair of dies to flatten and interweld

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opposed wall portions, around the hollow shapes of the container, receptacle and duct, and cut off any material excess to the required overall shape.

As shown by Figs. 1 and 2, the container 1 is formed integrally with a duct 2 which extends, from a bottom inlet 3, upwards externally alongside the container and is defined by opposed wall portions of the container flattened and interwelded to form web portions 4 and 5 which similarly define a dispensing receptacle 6, into which the duct 2 opens by an outlet 7, integrally moulded on the shoulder of the container.

In Fig. 2 the webs 4 and 5 are shown as composed of two distinct layers but this is only for the purposes of illustration, the moulded material in the webs being in practice homogenously interwelded. The mould parting line along the meeting plane of the moulding tools is indicated by the broken line X-X in Fig. 2.

The container is moulded with a screw-threaded neck 8, for a closure cap 9, and the receptacle 6 similarly has a neck 10 for a cap 11. The wall of the receptacle 6 is shown moulded with graduation marks 12, to indicate the levels for given volumes of liquid to be dispensed. The material of the whole container is transparent or translucent.

The container is delivered to the user filled with

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liquid to be dispensed, or may be filled or re-filled through the neck 8, and may be used in the following manner to dispense a full measure from the receptacle 6.

After removing or loosening the receptacle cap 11, and making sure that the container cap 9 is tightly closed, the container is squeezed, as indicated by the arrow S in Fig. 3 to reduce its volume and express liquid through the duct 2 into the receptacle 6 until it is seen that the duct outlet 7 is immersed.

On release from squeezing, as indicated by the arrow R in Fig. 4, the container recovers its volume and liquid is sucked back through the duct 2 until the liquid level in the receptacle 6 is reduced to the outlet 7 through which air, not liquid, is then inspired.

The cap 11 being removed, the measured amount of liquid can be poured from the receptacle 6 (Fig.5).

By judicious squeezing, less than a full measure, as observed against the graduation marks 12, may be dispensed. Also, provided that the liquid is at a suitably low level in the container 1, liquid may be returned from the receptacle to the container by tilting for liquid to flow back through the duct 2, the caps 9 and 11 being loosened.

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CLAIMS.

1. A liquid-dispensing container formed integrally with a dispensing receptacle and having, extending between the container and the receptacle, a duct for liquid to be expressed from the container into the receptacle or sucked back by squeezing or relaxing squeeze of the container to change its volume, in which the duct is formed integrally with the container and receptacle.


2. A container according to claim 1 formed of moulded resiliently deformable plastics material.

3. A container according to claim 2 formed by blow-moulding thermoplastic material to define the duct by opposed and interwelded wall portions of the container.

4. A container according to claim 3, in which, in the upright position of the container, the duct extends upwardly externally alongside the container wall from an inlet through the container wall near the bottom thereof to an outlet opening into a receptacle formed on a shoulder of the container.

5. A liquid dispensing container substantially as described with reference to and as shown by Figs. 1 and 2 of the accompanying drawings.

Dated this 1st day of November 1979.

  
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Ref: FPB 1083

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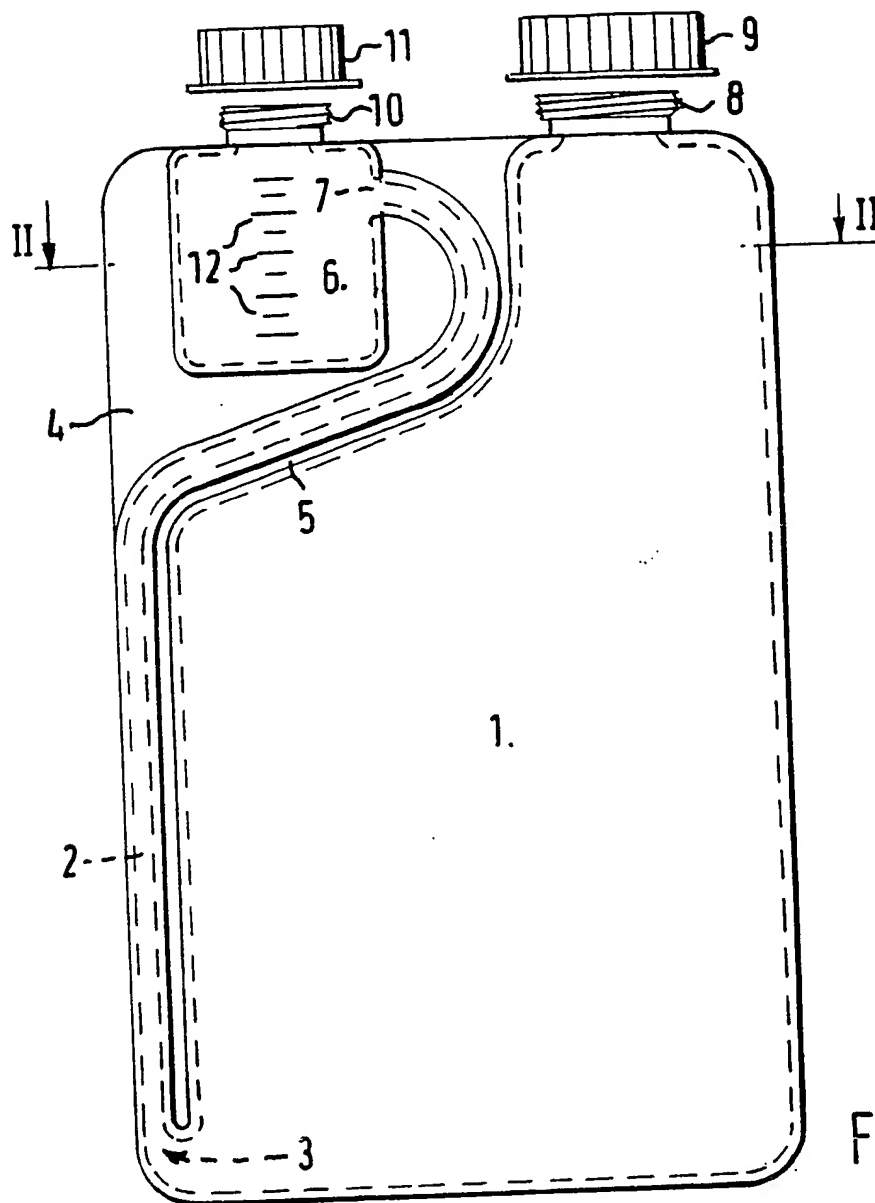


FIG. 1

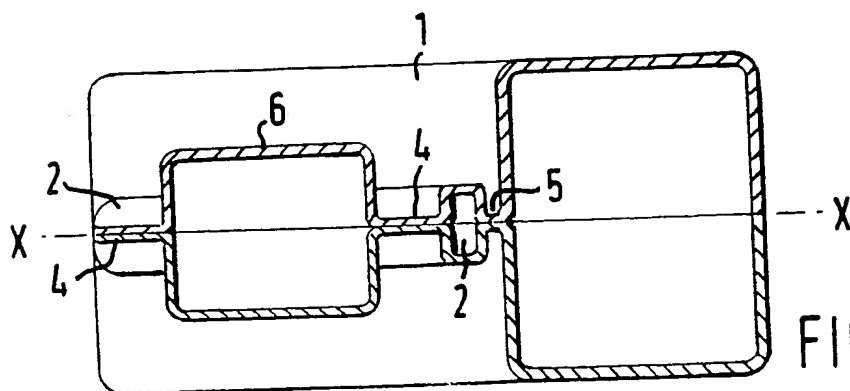


FIG. 2

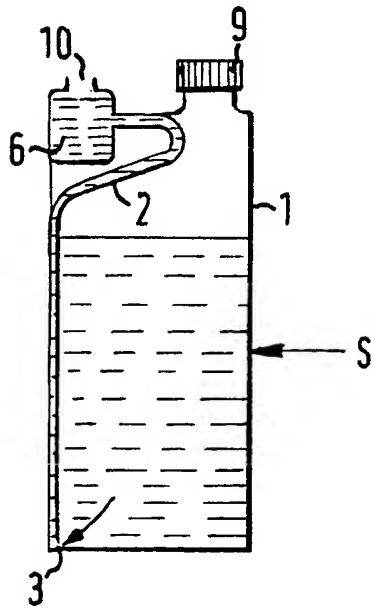


FIG. 3

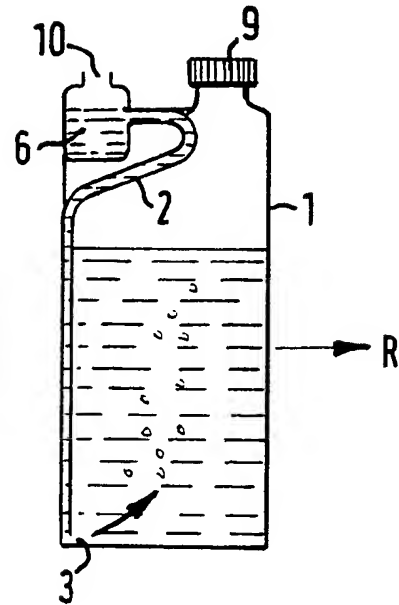


FIG. 4

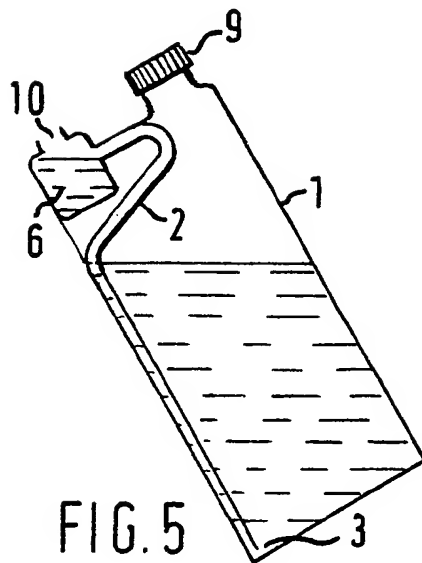
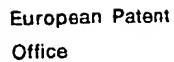


FIG. 5





**EUROPEAN SEARCH REPORT**

EP 79 30 2399

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages*	Relevant to claim	
	<u>FR - A - 1 393 789</u> (DONOGHE) * Patent specification *	1,2,5	B 65 D 25/52 G 01 F 11/08
	-- <u>DE - A - 2 710 639</u> (BANASCHIK) * Patent specification *	1	
	-- <u>FR - E - 88 270</u> (NATAF) * Patent specification *	1-4	
	-----		TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
			B 65 D G 01 F A 47 K B 29 C
			CATEGORY OF CITED DOCUMENTS
			X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			&: member of the same patent family, corresponding document
The present search report has been drawn up for all claims			
Place of search The Hague	Date of completion of the search 06-02-1980	Examiner VANTOMME	

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